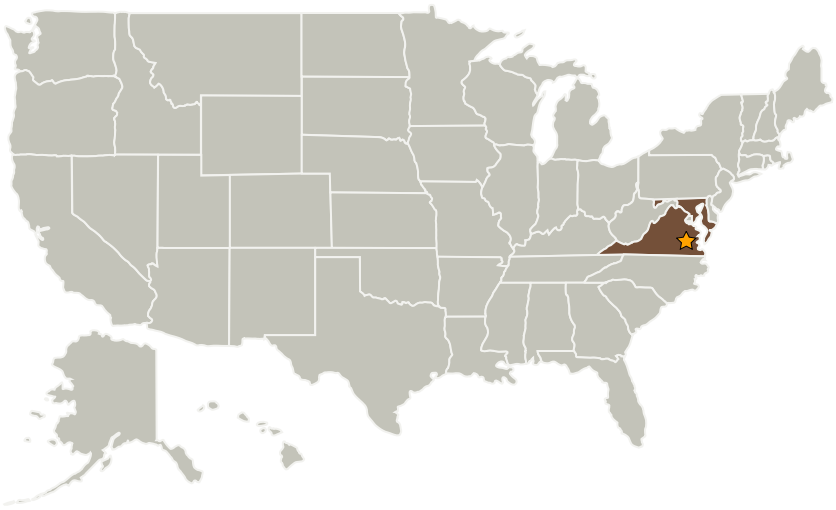
A Simulation Testbed for Dynamic Air Corridors within the Next Generation Air Transportation System, Phase I

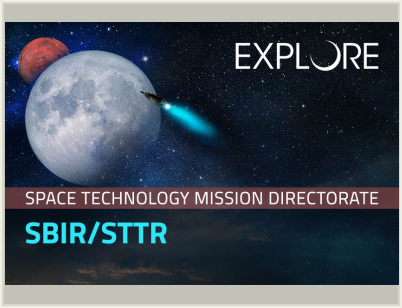
Completed Technology Project (2008 - 2008)

Project Introduction

The key innovation in this effort is the development of a simulation testbed for identifying dynamic air corridors that can increase aircraft throughput in and around the terminal airspace. In this proposal, an air corridor is a three-dimensional region of space that is intended to safely isolate a stream of aircraft from other aircraft outside the corridor. Air corridors/routes effectively exist today in two forms: static and dynamic. Static air corridors exist in the form of published standard arrival routes (STAR) and standard instrument departures (SID). Dynamic air corridors are effectively created when air traffic control (ATC) issues vector and speed instructions to aircraft. The proposed testbed would identify dynamic air corridors that provide ATC with more options that are optimized to provide greater throughput than is currently available with today's static air corridors. The testbed would continuously identify dynamic air corridors in order to adapt to changing hazards, changing queues of arriving and departing aircraft, and changing runway configurations. We further propose integrating the simulation testbed with NASA's Airspace Concept Evaluation Software (ACES) in order to assess the impact of dynamic air corridors on the entire U.S. national airspace.

Primary U.S. Work Locations and Key Partners





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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
Intelligent Automation, Inc.	Supporting Organization	Industry	Rockville, Maryland

Primary U.S. Work Locations	
Maryland	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Michel Santos

Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - TX16.3 Traffic Management Concepts